AGUILONIUS' OPTICS AND RUBENS' COLOR

CHARLES PARKHURST

Franciscus Aguilonius, or François d'Aguilon (1566–1617), native of Brussels, a tonsured student at Tournai and Douai, admitted to the Jesuit order, ordained in Spain, arrived at Antwerp as priest perhaps as early as 1596, and remained there the rest of his life[1].

He first was vice-rector under Carolus Scribanius, then rector (1613) and professor of theology in the Jesuit college, and at an undetermined date was charged with organizing instruction in the exact sciences. His volume, *Opticorum libri sex*, evidently prepared in connection with this task, became widely known but is often overlooked today. It appears to occupy a very important place in the history of color[2]. Moreover it has a significant relationship to the history of painting, particularly that of Rubens.

Peter Paul Rubens, Antwerp's learned diplomat, is best and most widely known as painter and colorist. Although the professional relationships between these two contemporaries have been matters for discussion and dispute among generations of scholars, no one has pointed out that d'Aguilon informed himself on Rubens' color problems and wrote *in extenso* about them in his book, and that Rubens, in at least one painting, deliberately made a demonstration of the color theories published by d'Aguilon.

This painting (fig. 1), a large picture which is now in the Wallraf-Richartz Museum in Cologne, bears the title given by Rubens himself, *Juno and Argus*. Without doubt it was painted in Antwerp after Rubens' return from Italy, and therefore between the years 1609 and 1611, for in a letter dated May 11, 1611,

[1] We are ill-informed on the life of d'Aguilon. The best sources are E. Quetelet, vol. 1, cols. 140–2 and Ad. Quetelet, 192 ff. He is mentioned briefly by Foppens, vol. 1. 281, and Alegambe. The most personal note is from Sweertius, 238: "F. Aguillonius... mihi familiaris, egregius philosophus, solidus theologus, in mathesi vero admirabilis". The best general work on the Jesuits at Antwerp is by Poncelet. D'Aguilon is mentioned in all works on Belgian architecture because of his connection with the design and construction of the Jesuit church at Antwerp; see especially Thibaut de Maizières.

[2] I shall discuss the scientific background of this work in another place in connection with the history of color notions in mediaeval and renaissance Europe. Suffice it for the moment to note that d'Aguilon's work is within the tradition Grosseteste-Newton. See Crombie. D'Aguilon's superior, Scribanius, had also interested himself in science and the most likely dates for the beginning of scientific instruction are 1607–'10. See Scribanius, 105, and Poncelet, 452.

Fig. 1 P. P. Rubens, Juno and Argus *Cologne, Wallraf-Richartz Museum*

he reports taking "an opportunity that has presented itself to sell at a reasonable profit my picture of Juno and Argus"; he does not disclose the buyer[3].

At some time additions were made to the original canvas including a vertical strip to the right of the hub of the chariot wheel and an additional narrow strip across the top. These two spurious additions were removed in restorations carried out in 1926, for patently they were later additions and not Rubens' work. Furthermore, it seems probable that in its first form Rubens' picture was square and did not include the three putti at the far left, for this part, as well as the two other margins are on pieces of canvas attached to but not integral with, the center square. It has been proposed on reasonable stylistic grounds that the putti were added about 1614 or 1615, perhaps at the request of the buyer. Also for stylistic reasons I think it possible that the female figure at the far right was likewise added at this time. These additions could have been

[3] Magurn, letter no. 22. The picture is said to have come to Cologne from the Palazzo Durazzo in Genoa.

made by Rubens himself, albeit in a summary style, and consequently have never been removed from the picture[4].

In this picture the subject is optical, the origin of the eyes of the peacock, and is undoubtedly taken from a textual source frequently exploited in the sixteenth and seventeenth centuries, and well-known to Rubens, Ovid's *Metamorphoses*. Juno stands on the platform of her chariot sprinkling over the tails of her two peacocks the hundred eyes being extracted from the severed head of Argus. She is assisted by her special messenger, Iris, identified by the rainbow above her head, who holds Argus' head wrapped in a cloth and extracts the eyes with forceps.

The sure identification of the youthful female figure at the far right is not possible, and the need for a suppositious identification tends to support my contention that she is the product of an afterthought. She wears ermine but has no other attributes except, perhaps, her dishevelled hair; neither of these identifies her adequately, although she would most logically be Io, whose amatory interlude with Jupiter occasioned this whole bloody episode. Possibly she is Syrinx, called *candida*, whose reedy story is a critical part of Ovid's account of the death of Argus, but is not particularly relevant to Rubens' subject, although it was with the charming tale about Pan and Syrinx, that Mercury lulled the hundred eyes into fatal sleep.

But this history is really not the subject, as I have said, for Pan is not in sight, nor Jupiter, nor Mercury; only the corpse of Argus, critical to the real subject, sprawls in the foreground as evidence of the deed. Furthermore, Iris, the rainbow, chief sensate manifestation of color and light since the time of Aristotle, is not involved in Ovid's account; but in Rubens' day Iris was inseparable from any work dealing with vision, optics or refraction. What is important is not the detailed understanding of the iconography, but that the subject is fundamentally an optical one dealing with eyes which, significantly, in Ovid's text are given to the "painted" peacock, *pavonibus pictis*.

Rubens derived the figure of Argus and the group of Juno and Iris from two older pictorial traditions: the body of Argus is one of many based on the most-admired fallen figure of the Italian Renaissance, Raphael's Heliodorus (itself perhaps of antique inspiration) which Rubens may have got directly from Raphael's picture in the Vatican, or, more likely, indirectly through any of a large number of derivatives, for it should be observed that the image is here reversed so an intermediate print is likely. More interesting is the fact that Rubens took as a model for the group of Juno and Iris the image of a very

[4] On these and related matters see especially Hupp, 118–29.

obvious and then popular parallel episode, *Judith and a Maid with the Head of Holofernes*, in particular after Mantegna (fig. 2). Where Rubens may have seen Mantegna's version of this subject I have not been able to determine, but a good guess would be Mantua, Mantegna's home, where Rubens had spent many months during his stay in Italy[5].

Another source which has been pointed out is a work by Rubens' last and best painting master, Otto Vaenius or van Veen, in particular a book, *Amorum Emblemata*, with 247 illustrations by Vaenius himself, published at Antwerp in 1608. There can be no question that Rubens knew the book; indeed, Rubens' brother, Philip, contributed a dedicatory poem to this small volume. The illustrations accompany Latin citations out of various classical authors, and are of an inferior quality vastly different from the work of Rubens; but an iconographic derivation by Rubens resulted. This book is not related directly to the painting but there is, nevertheless, an indirect connection to d'Aguilon's *Optics*[6].

The title page of d'Aguilon's work (fig. 3) was engraved by Theodore Galle after a drawing by Rubens now in the British Museum (fig. 4) and is clearly related to Vaenius' *Emblemata*; Venus has become Optica, and the peacock and eagle moved to places of importance alongside her. Vaenius' putti have been relegated to six headpieces designed by Rubens for the six books of the text. The principal features of this page, in addition to Optica, the peacock and eagle are the eye scepter and the pyramid of sight, the tiara, aurae of conventionalized light-rays, a celestial sphere and two flaming oil lamps. The whole is mounted in an Ionic exedra, complete from ground to cornice. Below, on the faces of the socles are mythological scenes after Macrobius, depicting a cynocephalus supine under a dark and cloudy sky (left) and standing erect with forepaws raised toward the bright new moon (right). Between these is the publisher's cartouche before

[5] See the excellent study by Kauffmann, 99–111. At about this same time Rubens was interested in this type of sprawling nude male figure, which appears in various forms in several of his paintings. There are by my own count at least nineteen versions of the Mantegna composition known today, including engravings, drawings and grisailles, and two paintings in color. None of this lot is indisputably by Mantegna, but the composition of all seems to be basically his, if with variations. The exemplars which most closely resemble Rubens' are a drawing in the Boymans Museum, Rotterdam (Koenigs Collection) and two paintings in Washington and Cracow (figs. 2 and 6). Rubens saw one of these two, or more likely, another (now unknown) from which these two were derived. The relevant image may be distinguished from all its variants by the pose of Judith, who, like Juno in Rubens' picture, stands with her left arm crossed diagonally before her body and her face turned about one-quarter out of profile. [6] This dependence has been pointed out in a detailed study by Lisenkov, 49–60. It should also be noted here that each illustration by Vaenius has as its chief protagonist winged Amor; the peacock also figures in one illustration, and also the eagle. Furthermore, Venus, who rides a chariot on the frontispiece of this book, is closely related both as to chariot and figure style to the Juno of the Cologne painting. However, further direct linking of the painting and Vaenius' title page is not justified.

Fig. 2 A. MANTEGNA (COPY), JUDITH AND HOLOFERNES, painting 30 × 18 cm.
Washington, National Gallery of Art, Widener Collection

which lie five measuring instruments. Above, and flanking the title, two herms serve as caryatids: on the left, Mercury with the severed head of Argus and on the right, Minerva with her spear and the Medusa-head reflection on her shield[7].

I describe this in detail because I want to establish one point firmly: that Rubens knew at least part of the text of d'Aguilon's book. This page stresses *optics* in its female personification and her attributes, in the sharp-sighted eagle (perhaps a far-fetched pun on the Latin form of d'Aguilon's name) the Argus myth, and the eye-scepter. It also refers to *catoptrics* in the reflection of Medusa's head and to *dioptrics* in the auras and halos (and perhaps indirectly in the celestial sphere, symbol for astronomy). There is no overt reference to any color theory or system.

From this we deduce that Rubens at least knew the contents of d'Aguilon's preface (*Lectori*)[8]. In this text one finds each of the principal iconographic features, Optica, peacock, Argus, Mercury, astronomy, eye-scepter, pyramid of sight and Macrobius' cynocephalus myth. Thus the archetype for the title page, and therefore of the Cologne painting, is d'Aguilon's introduction to his book. Let us examine this book and its text further.

As stated on the title page, this work was published at Antwerp in 1613 by the Plantin Press, but internal evidence indicates it was completed not later than 1611, and the Antwerp censor dated his *nihil obstat* 9 December 1611. This is a great tome of 684 pages and over 500 illustrations and several years of preparation are likely; indeed, it was two years getting into print after the censor's approval in 1611. We are so little informed on the life of d'Aguilon and the history of the *domus professus* at Antwerp that it can only be presumed d'Aguilon turned toward the natural sciences after he arrived in Antwerp in 1596; there is evidence that the sciences were approved for teaching there at some point after 1606. The formulation of the work and the writing took place, in all probability, over fifteen years, and most likely came to fruition during the last five, 1606–11, a reasonable span for the production of such a comprehensive work.

D'Aguilon's *Optics* as published deals solely with the first of three ways in which the human eye was believed to see objects, that is to say, directly (*optics*). He had planned a second part to be about reflection (*catoptrics*) and a third on refraction (*dioptrics*) including the astronomical telescope and the phenomena of rainbows, halos and parhelia. Although he published these ambitious intentions

[7] This title page has certain other sources in addition to Vaenius, among which are a reference to the house Rubens was building for himself at this very time, where, in the motif of the uppermost windows one recognizes his title page. See Evers, 172. [8] That Rubens knew something of the contents of each of the six books also is shown by the iconography of their respective headpieces. On the basis of style these six pictures are attributable to Rubens without question.

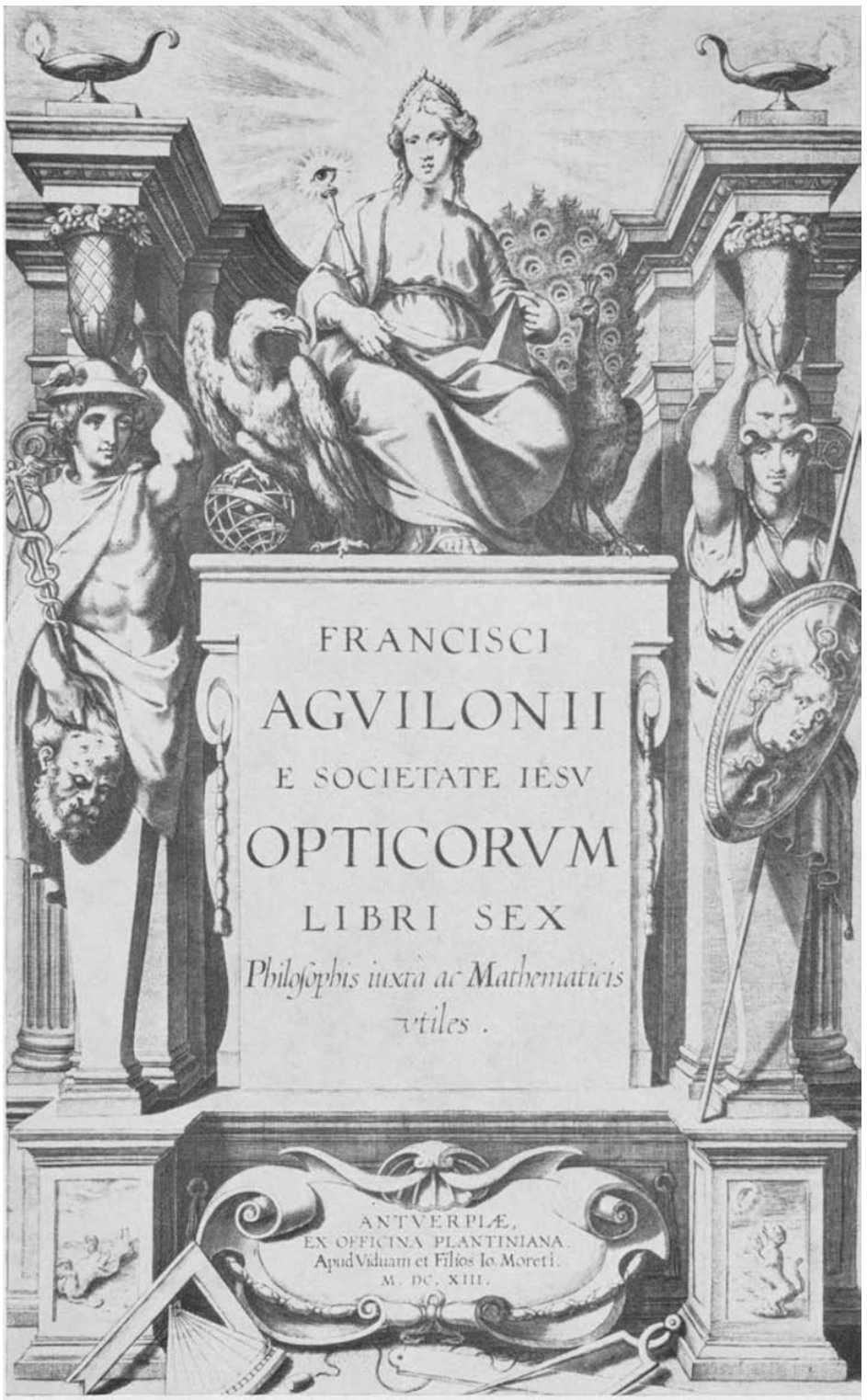

Fig. 3 TITLE PAGE OF D'AGUILON'S BOOK, engraving by Th. Galle *Leiden, University Library*

in the *Lectori* and elsewhere in his text, no extant manuscripts or notes for the two other projected volumes have been identified. The *Optics* is divided into six books: I, the organ, the object and the nature of vision; II, optical rays and binocular vision; III, relationships of objects in visual terms, including problems of transparency, opacity, shadow, darkness, beauty, deformity, similarity and dissimilarity; IV, fallacies of perception; V, the illuminated and the shaded; and VI, projections.

Book I, dealing with the eye and the nature of vision, contains (Props. 28–42) the core of d'Aguilon's ideas of color. Particularly in Proposition 39, entitled *Quinque sunt simplicium colorum species, ac tres compositae*, we find proposals for a system of color relationships. The author states in his very first sentence that he does not intend to write about actual colorants, *de coloribus concretis*, such as red lead, cinnabar, ochre and so on, "which painters put onto their paintings", but of those colors "which are visibly present in the above mentioned colorants with visible qualities". Thus he evinces an understanding that there exist certain differences between the physical properties of paint and its behavior and the abstract and theoretical aspects of color. It is significant that he refers the former to painters. Despite his disclaimer of interest in colorants, he later gives extensive lists of colorants and illustrates his points throughout these pages with examples that could only be drawn from experiences with paints, whether his own or those of someone else. We may be certain, therefore, that he had in some way become familiar with the problems of paint mixing as they confront artists. In point of fact he devotes the concluding paragraphs of this proposition to paints and pigments, and his closing remark makes the importance of the artist in this connection very clear: "But nobody", he says, "knows these things so precisely as painters. We leave it to them to explain these things more in detail".

After a discussion of the nature of color vision, to which we shall presently return, d'Aguilon launches a complete working system of color relationship and color derivations, so complete that it includes all possible colors, "to a nearly infinite number". Although he works out only the first two stages of these color derivations for the reader and in terms which are no longer employed in the manner he uses them, it is not difficult to understand him, especially if one refers to the graphic demonstration of his system with which he illustrates his text (fig. 5). "We are discussing here", he writes, "the colors which are now visible in nature: and we call those simple colors from which all the others clearly proceed by mixture; those are the composite ones, on the other hand, which proceed from the simple ones".

He writes further that it is his express purpose to explain "how many sorts

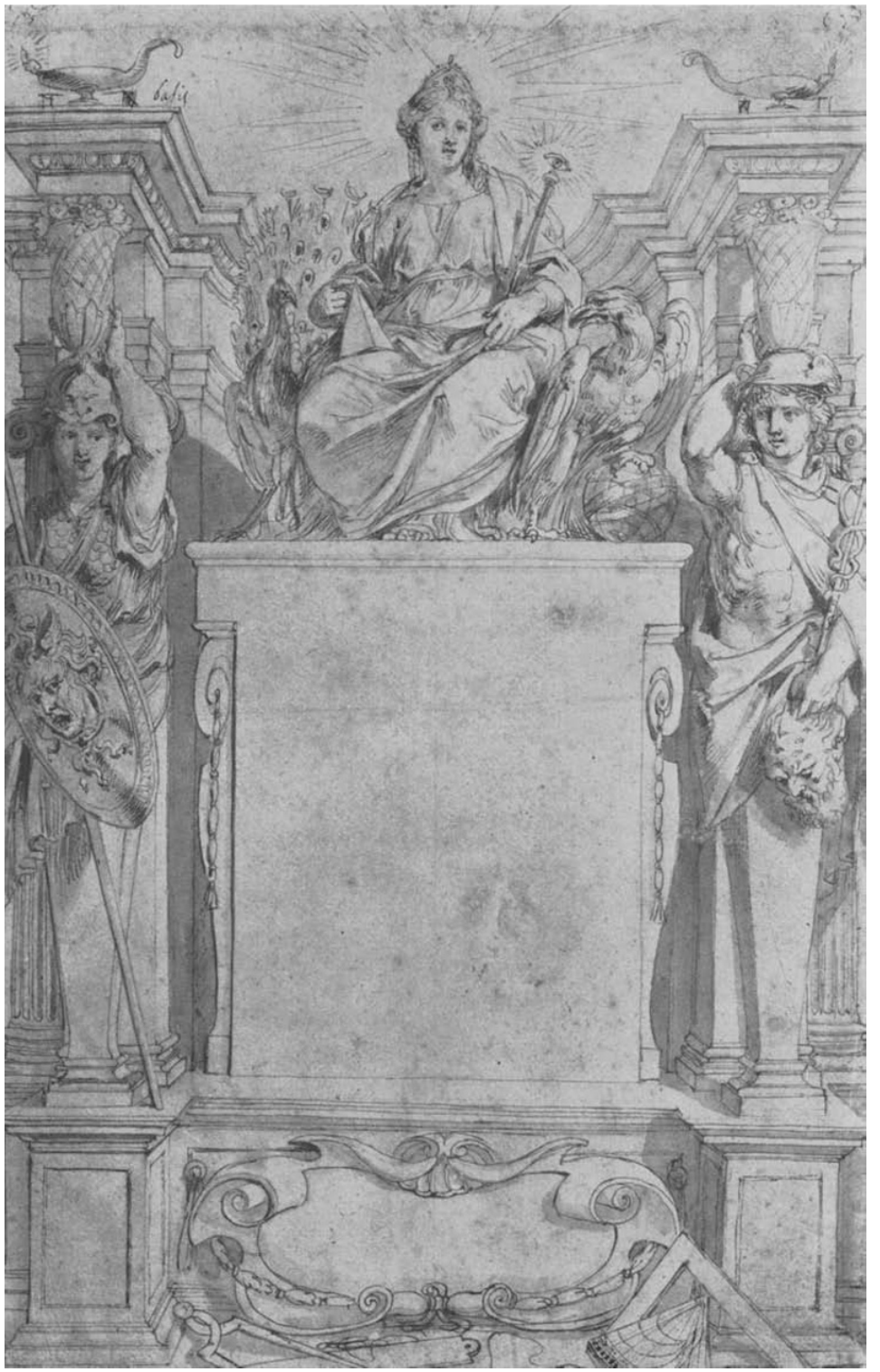

Fig. 4 P. P. Rubens, Drawing for Title Page of d'Aguilon's book. *London, British Museum*

and ultimate varieties of color there are". First he presents white and black as "extreme" whiteness and blackness, a good Aristotelian derivation[9], followed by yellow, red and blue, in that order, as "middle colors". Further, "there arise through composition from the three middle colors, as many composite colors", these he lists as orange (from a mixture of yellow and red), purple (from red and blue) and green (from yellow and blue). Thus mixed in pairs, he says, three simple colors produce colors with a "pleasant and beautiful aspect"; but, he warns, should one attempt to combine all three simple colors an unpleasant color results, "livid and lurid and even cadaverous".

D'Aguilon goes on to explain his diagram with respect to two other properties of any simple or composite color: first, its lightness or darkness relative to white and black, including its relative position in a scale as shown in his diagram, from white at one end, through yellow, red and blue, to black[10]; and second, what he calls its "strength or weakness" according to the amount of lightness or darkness, white or black, admixed. To show the variety of colors thus produced he lists many actual colorants which he says show "accidental" variations of the abstract notions of yellow, red, blue, orange, green or purple. The "simple" colors, abstract and pure, he carefully distinguishes from paints: "only those kinds of simple colors must be understood which our mind can attain free from matter, not however those which we see interwoven in matter".

D'Aguilon's ideas of the problems and hazards of colors "interwoven with matter" (i.e., paints and colorants) and what they produce when mixed together occupy his attention for many lines. Obviously he has experimented if he can write, "Sandarach added to burnt lead white produces a pleasant orange color, not however when it is mixed with lake, because this has some blue in it ...when ...because of the combinations of the three simple colors it becomes livid and quite sombre". Likewise the extreme colors, black and white, "come to a friendly union with all the middle colors, both simple and composite. They seem, however, to alter the appearance of those with which they are mixed... Hence the manifold variety of colors".

[9] D'Aguilon's references here are to the suppositious work of Aristotle, *De coloribus*, which had been printed in at least five Latin editions between 1548 and 1563, with commentaries, and especially to chaps. 3 and 4 of *De sensu et sensili* (*Parva naturalia*) which was then known from a dozen or more Latin printed versions published throughout Europe since 1491, with and without commentary. I have not yet examined this material to determine the text(s) he may have used. [10] He uses the composite and symbolic notions of whiteness as excellence and "highest", being most similar to light, and black as the "lowest", being nearest to darkness. As will be noted, however, he does not observe this highest-lowest notion in his diagram, but puts it down in a left-right relationship. This lightness-to-darkness, or "value" scale is clearly of Neo-Platonic origins, and is found already in the work of Robert Grosseteste in the thirteenth century at Oxford.

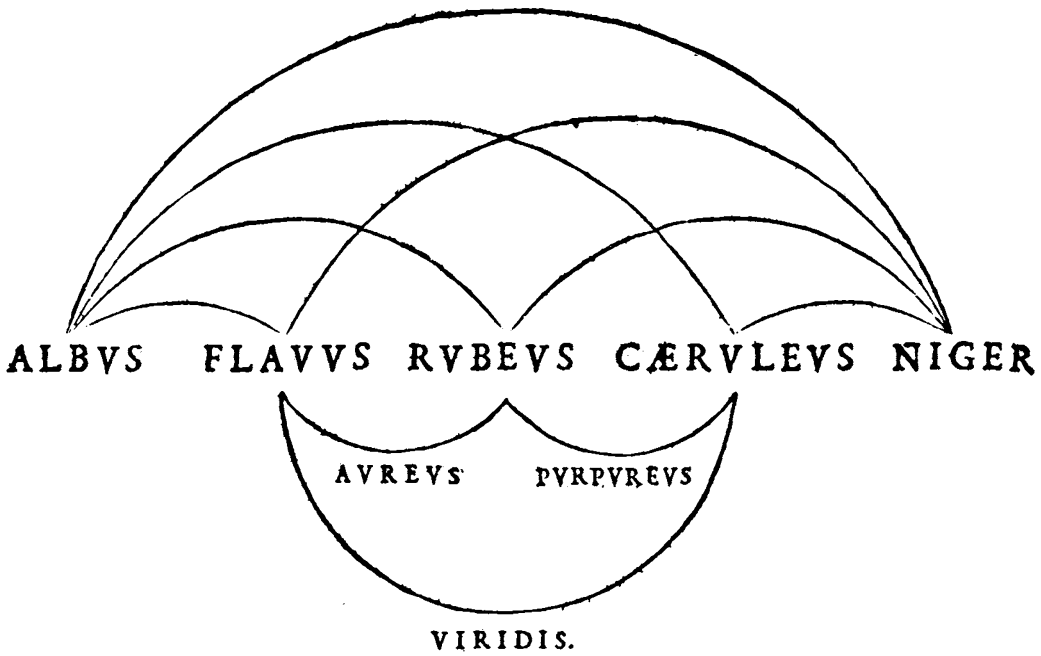

Fig. 5 D'AGUILON'S COLOR SYSTEM; DIAGRAM FROM BOOK I, Proposition 39

In short, and in more modern terms, d'Aguilon has in mind and is able to formulate graphically a theory that there are three *primary* hues, which correspond to the abstract notions yellow, red and blue; that three *secondary* hues may be produced by mixing pairs of these primaries, but that all three primaries if mixed will only produce a livid or sombre hue; and that each color may differ from each other not only with respect to its hue, as yellow, red and blue differ, but likewise in two other dimensions which we today call *value* and *intensity* (*saturation*). To the modern reader brought up on the "color solid", d'Aguilon's observations will appear commonplace, but it is quite likely that in 1613 these notions and the author's presentation of them, held great novelty. Indeed, we have here what must be one of the earliest written formulations and diagrammatic presentations of the yellow-red-blue system which was to play a major role in color theorizing for over three hundred years.

If we return now to Rubens' *Juno and Argus* in its presumed original square shape containing two figures, the chariot and Argus, we should note this about its coloring: the striking feature is the color triad of yellow, red and blue in the chariot, Juno and Iris. Juno dominates the scene with her red costume, displaying the greatest area of any single hue in the picture. Behind, and to Juno's right, Iris' robe is blue, which, by reason of her partially obscured

position, offers less area to the eye. At the right the yellow of the chariot and of the gold embroidery on Juno's windblown cloak completes the yellow-red-blue triad. No other hues in this picture can be said to approach these three in amount or strength.

The rainbow over Iris' head, however, contains the basic triad on a small scale, as if to say "here is the germ of it all", with less intensity and in the correctly observed order with red on the outside of the arc, followed by yellow and then blue on the inside; but also worked between these is the secondary triad as orange, blue-green and violet[11]. Finally, near white is represented in the lightness of several pieces of cloth, in cloud edges and other highlights, and near-black in the darkness of deepest shadows. Thus Rubens introduces all the simple and composite colors, plus lightness and darkness, and the composite colors are quite secondary and in no way approach the simple yellow-red-blue in pictorial importance. The peacock feathers contain, nonetheless, scattered patches of violet and green, definitely limited as to quantity and intensity so that they do not impress themselves on the observer, who is captured rather by the brilliant clarity of the principal triad. It is as though Rubens were illustrating d'Aguilon's words: "We are discussing here the colors which are now visible in nature... from which all the others clearly proceed by mixture".

Flesh color in this painting proves, on inspection[12], to be a melange of highly modified simple and composite colors, in complex layering, combined in the customary manner of Rubens through separate and super-imposed patches of pink and gray, with highlights of yellowish white and shadows of gray-green *terra verte*. But the colors of Argus' corpse, with greater physical comingling of the pigments and an abundance of green, recalls d'Aguilon's comment on the mixture of three simple colors to produce an unpleasant color, "livid and lurid and even cadaverous". As a matter of fact there are minute dots and particles of *terra verte*, scarcely visible to the eye, throughout many parts of the picture as well as in this corpse.

In the handling of such color-mixtures, Rubens' work may be further related to d'Aguilon's text, for in his Proposition 39 the latter also takes up the problems of color mixing and proposes three ways in which they may be accomplished: first by physical mixture of colorants ("real mixture"; *compositio realis*; *reipsa*); second, by laying one colorant over another so that the underlying

[11] Many years previously the rainbow had been empirically described. On the history of the observation and explanation of the rainbow from Aristotle to Newton see Crombie, *passim*. [12] I have had the privilege of examining this painting in the restoration laboratory of the Wallraf-Richartz Museum in 1957 when it was being cleaned and was stripped of all its old varnishes.

Fig. 6 A. MANTEGNA (COPY), JUDITH AND HOLOFERNES, painting on copper 38,5 × 24,5 cm.
Cracow, Museum Narodowe

paint shows through the transparent layer over it ("intentional mixture"; *compositio intentionalis*); and third by subdividing colorants into spots "so small that they escape the eye", with the result that the colors, "while separately transferred through a medium, converge in the eye as to sense perception, so that from all those colors one mixed color is the result" ("perceptual mixture"; *compositio notionalis*). In this painting Rubens appears to have taken care to illustrate these three mixing devices, including (in Argus' body) the last, which in d'Aguilon's text is a remarkably early, and perhaps the earliest statement of the principles of optical mixture usually associated with the late nineteenth century Impressionism and Neo-Impressionism[13].

Further analysis might carry us beyond the border of reasonableness in search of painterly parallels to our textual source. D'Aguilon himself alludes to the futility of slicing such material too thin, when he points out that examples can be added "to a nearly infinite number to show the transformation of colors". Suffice it to have indicated the yellow-red-blue scheme dominating the picture, the relegation of other colors to subordinate roles, and the three principles of mixture employed. Although the appearance of these features in later seventeenth century painting has been previously noted by others, this early appearance of such a system of color has never been related to any specific source nor, of course, to Rubens or d'Aguilon. We can now refer back to Mantegna, for in one version in color of his *Judith and Holofernes*, which has been signalized as Rubens' compositional basis, we find this same primary triad dominant[14]. The questions will remain, was this Mantegna's, a follower's or copyist's color? Had it to do with this "divine" act or was it an aesthetic, or perhaps even scientific choice?

This demonstration of some points of relationship between the expressed color theories of a scientist and of a painter raises many more problems than it solves. We would like to know, for example, with whom the antecedence lies: whether the color notions expressed by d'Aguilon, and carried out by Rubens in his painting after the model of the text, are really the work of that scientist, or whether, on the contrary, they were handed complete to the scientist by Rubens. If they were Rubens', then had he worked them out for himself, or got them from some earlier source, such as Mantegna, or other Italians like

[13] These three principles of mixing are taken from Aristotle, *De sensu*, chapt. III (439b), modified by experimentation and with concrete examples. Their novelty lies in this concreteness. [14] This is the version in the National Gallery of Art, Washington, reproduced here in fig. 2. It may be significant that this picture and a replica in Cracow (fig. 6) have been called "Flemish copies". The question of authorship remains unanswered at this time. As to the color triad used to signify divinity it is interesting that Zoan Andrea's engraving of this composition (Hind, 386, no. 5) is inscribed DIVA JUDIT.

the Carracci, or perhaps from Elsheimer in Rome or Italian theorists, or from commentators on Aristotle? Or had, indeed, the painter and the scientist worked them out collaboratively in Antwerp? If they were d'Aguilon's, what sources was he exploiting?

There are other problems. We do not know enough of either Rubens or d'Aguilon during the years 1606–'11 to determine all the possible influences upon them. Certainly, however, both men were classical scholars and there is a possibility, as yet only vaguely outlined in the materials of research, that the yellow-red-blue system is, like the subject of Rubens' painting, of classical origin, or may have been derived directly out of, or developed gradually by the many mediaeval commentators on, classical texts.

Some of these questions can and will be answered. They are particularly significant because the moment is of historical importance, when a gigantic reorientation of man's outlook on life was in progress, leading to new points of view that were to be adhered to during the succeeding three centuries, and to some degree are still in force today. Symptomatic of this change, Rubens' picture and d'Aguilon's text are important documents for the history of both science and art.

The research for this paper was supported by grants from the United States Government and from the Penrose Fund of the American Philosophical Society.

Bibliography

Aguilonius F., *Opticorum libri sex philosophis ac matematicis utiles*, Antverpiae, ex officina Plantiniana, ...MDCXIII.

Alegambe P., *Bibliotheca Scriptorum Societatis Iesu*, Antverpiae 1643.

Crombie A. C., *Robert Grosseteste and the Origins of Experimental Science*, 1100–1700, Oxford 1953.

Evers H. G., *Rubens und sein Werk*, Brüssel 1944.

Foppens J. F., *Bibliotheca Belgica...*, Bruxellis 1739.

Hupp H. W., "Das Argusbild des Peter Paul Rubens in der Kölner Galerie", *Festschrift für Karl Koetschau*, Düsseldorf 1928.

Kauffmann H., "Rubens und Mantegna", *Beiträge zur Geschichte, Wirtschaft und Kultur des Rhein-, Maas- und Schelderaumes, Köln und der Nordwesten*, Köln 1941.

Lisenkov E. G., "Rubens' Illustrations to Aguilonius' 'Book on Optics' ", *Gosudarstwienny Ermitash* (Hermitage Yearbook, in Russian) 3 (1949) 49.

Magurn R., *The Letters of Peter Paul Rubens*, Cambridge (Mass.) 1955.

Maizières Th. de, *L'architecture religieuse à l'époque de Rubens*, Bruxelles 1943.

Poncelet A., "Histoire de la Compagnie de Jésus dans les anciens Pays Bas", *Mémoires, Académie Royale de Belgique, Classe des lettres et des sciences morales et politiques*, 21 (1926).

Quetelet Ad., *Histoire des sciences mathématiques et physiques chez les Belges*, Bruxelles 1864.

Quetelet E., *Biographie Nationale de Belgique*, Bruxelles 1866.

Scribanius C., *Origines Antverpiensium*, Antverpiae 1610.

Sweertius F., *Athenae Belgicae...*, Antverpiae 1628.

Photo Mas

Fig. 1 VÉLASQUEZ, LES MÉNINES, toile, 3.18 × 2.76 *Madrid, Prado*